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FILE 'AGRICOLA' ENTERED AT 12:46:03 ON 24 NOV 2005

FILE 'WPIDS' ENTERED AT 12:46:03 ON 24 NOV 2005
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=> s l1
L2 35256 L1

=> s (resistan? or immun?) (s) L1
9 FILES SEARCHED...
11 FILES SEARCHED...
L3 2280 (RESISTAN? OR IMMUN?) (S) L1

=> s (phage# or bacteriophage# or sfi1 or sficl6 or sfi21) (s) L3
L4 421 (PHAGE# OR BACTERIOPHAGE# OR SFI1 OR SFICL6 OR SFI21) (S) L3

=> s (modifi? or mutat?)(s) L4
L5 83 (MODIFI? OR MUTAT?)(S) L4

=> s (orf90 or orf394 or orf269 orf1560) (s) L5
L6 0 (ORF90 OR ORF394 OR ORF269 ORF1560) (S) L5

=> dup rem l5
PROCESSING COMPLETED FOR L5
L7 53 DUP REM L5 (30 DUPLICATES REMOVED)

=> d ibib abs l7 1-53

L7 ANSWER 1 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:195796 USPATFULL
TITLE: Attaching substances to microorganisms
INVENTOR(S): Buist, Girbe, Groningen, NETHERLANDS
Leenhouts, Cornelis Johannes, Haren, NETHERLANDS
Venema, Gerard, Haren, NETHERLANDS
Kok, Jan, Groningen, NETHERLANDS

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005169937	A1	20050804
APPLICATION INFO.:	US 2003-654637	A1	20030903 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2000-554354, filed on 19 Jun 2000, PENDING A 371 of International Ser. No. WO 1998-NL655, filed on 12 Nov 1998

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1997-203539	19971113

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: TRASK BRITT, P.O. BOX 2550, SALT LAKE CITY, UT, 84110, US
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Page(s)
LINE COUNT: 2500
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to surface display of proteins on microorganisms via the targeting and anchoring of heterologous proteins to the outer surface of cells such as yeast, fungi, mammalian, plant cells, and bacteria. The invention provides a proteinaceous substance comprising a

reactive group and at least one attaching peptide including a stretch of amino acids having a sequence corresponding to at least a part of the consensus amino acid sequence listed in FIG. 10 and further includes a method for attaching a proteinaceous substance to the cell wall of a microorganism comprising the use of the attaching peptide.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 2 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2005:158196 USPATFULL
TITLE: Nucleic acid and amino acid sequences relating to streptococcus pneumoniae for diagnostics and therapeutics
INVENTOR(S): Doucette-Stamm, Lynn A., Framingham, MA, UNITED STATES
Bush, David, Somerville, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005136404	A1	20050623
APPLICATION INFO.:	US 2003-617320	A1	20030710 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 1998-107433, filed on 30 Jun 1998, PENDING

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-51553P	19970702 (60)
	US 1998-85131P	19980512 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Robert L. Spadafora, Genome Therapeutics Corporation, 100 Beaver Street, Waltham, MA, 02453, US
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1
LINE COUNT: 12957
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated polypeptide and nucleic acid sequences derived from Streptococcus pneumonia that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 3 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:203417 USPATFULL
TITLE: Alpha-galactosidase as food-grade genetic marker
INVENTOR(S): Moineau, Sylvain, Notre-Dame-du-Bon-Conseil, CANADA
Boucher, Isabelle, Quebec, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004157308	A1	20040812
APPLICATION INFO.:	US 2004-471601	A1	20040402 (10)
	WO 2002-CA462		20020405

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: OGILVY RENAULT, 1981 MCGILL COLLEGE AVENUE, SUITE 1600, MONTREAL, QC, H3A2Y3
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 1386
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a 4007 bp DNA fragment from the strain Lactococcus raffinolactis ATCC 43920 containing two genes. The first gene (named aga) codes for an enzyme with an alpha-galactosidase activity. The second gene (named galR) codes for a transcriptional regulator which would act as a regulator of aga. When present in a lactic acid bacterium such as Lactococcus lactis, this DNA fragment can

modify the sugar fermentation profile of the strain from melibiose-negative to melibiose-positive. The utilisation of a culture media containing melibiose as the sole carbon source and bromcresol purple as pH indicator allows the identification of the melibiose-fermenting bacteria as yellow colonies on a purple background.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 4 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:38579 USPATFULL
TITLE: Streptococcus pneumoniae polynucleotides and sequences
INVENTOR(S): Kunsch, Charles A., Norcross, GA, UNITED STATES
Choi, Gil H., Rockville, MD, UNITED STATES
Dillon, Patrick J., Carlsbad, CA, UNITED STATES
Rosen, Craig A., Laytonsville, MD, UNITED STATES
Barash, Steven C., Rockville, MD, UNITED STATES
Fannon, Michael R., Silver Spring, MD, UNITED STATES
Dougherty, Brian A., Killingworth, CT, UNITED STATES
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, UNITED STATES, 20850 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004029118	A1	20040212
APPLICATION INFO.:	US 2002-158844	A1	20020603 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 1997-961527, filed on 30 Oct 1997, GRANTED, Pat. No. US 6420135

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-29960P	19961031 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 9165
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides polynucleotide sequences of the genome of Streptococcus pneumoniae, polypeptide sequences encoded by the polynucleotide sequences, corresponding polynucleotides and polypeptides, vectors and hosts comprising the polynucleotides, and assays and other uses thereof. The present invention further provides polynucleotide and polypeptide sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 5 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:24675 USPATFULL
TITLE: Listeria inocua, genome and applications
INVENTOR(S): Kunst, Frederik, Ivry Sur Seine, FRANCE
Glaser, Philippe, Paris, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004018514	A1	20040129
APPLICATION INFO.:	US 2003-398221	A1	20030710 (10)
	WO 2001-FR3061		20011004

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2000-12697	20001004

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 1300 I STREET, NW, WASHINGTON, DC, 20005

NUMBER OF CLAIMS: 87
EXEMPLARY CLAIM: 1
LINE COUNT: 8329
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention concerns a nucleotide sequence derived from Listeria inocua corresponding to a sequence selected among SEQ ID NO: 1 to SEQ ID NO: 11 and the comparative analysis of said genome with that of Listeria monocytogenes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 6 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2004:250212 USPATFULL
TITLE: Nucleic acid and amino acid sequences relating to Streptococcus pneumoniae for diagnostics and therapeutics
INVENTOR(S): Doucette-Stamm, Lynn A., Framingham, MA, United States
Bush, David, Somerville, MA, United States
PATENT ASSIGNEE(S): Genome Therapeutics Corporation, Waltham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6800744	B1	20041005
APPLICATION INFO.:	US 1998-107433		19980630 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-85131P	19980512 (60)
	US 1997-51553P	19970702 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Brusca, John S.
ASSISTANT EXAMINER: Zhou, Shubo "Joe "
LEGAL REPRESENTATIVE: Genome Therapeutics Corporation
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 11545
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated polypeptide and nucleic acid sequences derived from Streptococcus pneumonia that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 7 OF 53 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-157114 [15] WPIDS
DOC. NO. CPI: C2004-062549
TITLE: New isolated nucleic acid molecule comprising all or a portion of at least two Ter sites, useful for molecular biology applications, e.g. cloning, selecting or purifying a nucleic acid of interest or producing single-stranded DNA.
DERWENT CLASS: B04 D16
INVENTOR(S): BYRD, D R N; HARTLEY, J L; YOUNG, A
PATENT ASSIGNEE(S): (INVI-N) INVITROGEN CORP
COUNTRY COUNT: 104
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2004013290	A2	20040212 (200415)*		EN	169

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH
PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN
YU ZA ZM ZW
AU 2003257109 A1 20040223 (200453)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004013290	A2	WO 2003-US24064	20030804
AU 2003257109	A1	AU 2003-257109	20030804

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2003257109	A1	Based on	WO 2004013290

PRIORITY APPLN. INFO: US 2002-403095P 20020814; US
2002-400704P 20020805
AN 2004-157114 [15] WPIDS
AB WO2004013290 A UPAB: 20040302
NOVELTY - An isolated nucleic acid molecule engineered to comprise all or a portion of at least two Ter sites flanked by recombination sites, where the nucleic acid comprises an origin of replication and the Ter sites are arranged with respect to the origin of replication so that the sequence between the two Ter sites is not replicated, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a modified Ter-binding protein;
(2) a support comprising at least one oligonucleotide that comprises all or a portion of a Ter site or a portion of a Ter-binding protein;
(3) a method for directional cloning;
(4) a method for attaching a nucleic acid to a solid support;
(5) a method of improving the transfection efficiency of a nucleic acid molecule;
(6) a composition comprising the nucleic acid molecule and all or a portion of one or more Ter-binding proteins attached to a support;
(7) a method for improving the stability of a linear nucleic acid molecule in vivo;
(8) a method for detecting a biological molecule;
(9) a method for separating a nucleic acid containing all or a portion of one or more Ter sites from a mixture;
(10) a kit comprising one or more molecules selected from the group consisting of a nucleic acid molecule engineered to comprise all or a portion of at least two Ter sites and a polypeptide comprising all or a portion of one or more Ter-binding proteins;
(11) a method of juxtaposing a Ter site on a nucleic acid molecule with a second site on the nucleic acid molecule;
(12) a method of cloning;
(13) a method for synthesizing a double stranded nucleic acid molecule comprising all or a portion of one or more Ter sites;
(14) a method for adding one or more Ter sites or portions to one or more nucleic acid molecules;
(15) a method for producing one or more cDNA molecules or a population of cDNA molecules;
(16) a method for synthesizing one or more nucleic acid molecules comprising all or a portion of one or more Ter sites; and
(17) a method of cloning two DNA fragments into one vector in one reaction.
USE - The nucleic aid is useful in molecular biology applications. It is useful for cloning, for selecting a nucleic acid of interest, for purifying a nucleic acid of interest, for producing single-stranded DNA, for juxtaposing at least two sites of a polynucleotide, for maintaining topology of a nucleic acid molecule, for detecting target sequences and other biomolecules or for immobilizing polynucleotides onto a support.
Dwg.0/16

L7 ANSWER 8 OF 53 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-608226 [59] WPIDS

DOC. NO. CPI: C2004-220308
TITLE: Novel envelope protein of Thermophilus phage, useful as vector to integrate gene encoding heat-resistant protein in host cell, and thus in producing heat-resistant protein.
DERWENT CLASS: B04 D16
PATENT ASSIGNEE(S): (OSAG) OSAKA GAS CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 2004236621	A	20040826 (200459)*			19

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2004236621	A	JP 2003-31297	20030207

PRIORITY APPLN. INFO: JP 2003-31297 20030207
AN 2004-608226 [59] WPIDS
AB JP2004236621 A UPAB: 20040915
NOVELTY - An envelope protein (I) of Thermophilus phage, comprising a sequence of 138 (S1) and 217 (S2) amino acids fully defined in the specification, and comprising one or more deletion, substitution, insertion or addition, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a DNA (II) encoding (I), comprising a gene sequence of 417 (S3) and 654 (S4) nucleotides fully defined in the specification, DNA hybridizing under stringent conditions with (S3) and (S4), DNA encoding (I), and DNA hybridizing to the DNA that encodes (I);
(2) producing (M1) heat-resistant protein, involves integrating the gene encoding (I) in DNA of Thermophilus phage, introducing the recombinant DNA obtained by above integrating step to a host cell, and proliferating Thermophilus phage, which involves expressing resistant protein on the cell envelope of the host cell;
(3) DNA (III) of Thermophilus phage containing gene encoding (I) to express on the cell envelope of Thermophilus phage;
(4) host cell (IV) containing (III);
(5) heat-resistant protein (V) obtained by (M1);
Thermophilus phage (VI) which expresses heat resistant protein on the cell envelope; and
(6) producing (M2) heat ***resistant*** protein, involves integrating the gene encoding (I) in DNA of ***Thermophilus*** , generating ***mutation*** to recombinant DNA obtained at the integrating step, introducing obtained ***mutated*** DNA to the host cell, and proliferating ***Thermophilus*** ***phage*** which involves expressing the protein on the cell envelope of the host cell.
USE - (II) encoding (I) is useful in producing heat-resistant protein (claimed).
ADVANTAGE - (II) encoding (I) efficiently produces heat-resistant protein in large quantities. The recovery of the protein is easy. The heat-resistant proteins exhibit function even at 70 deg. C or above.
DESCRIPTION OF DRAWING(S) - The figure is a model showing the integration of foreign gene in a phage and expressing heat-resistant protein on the envelope protein.
Dwg.3/3

L7 ANSWER 9 OF 53 FSTA COPYRIGHT 2005 IFIS on STN
ACCESSION NUMBER: 2004:P1655 FSTA
TITLE: Selection and properties of Streptococcus thermophilus mutants deficient in urease.
AUTHOR: Monnet, C.; Pernoud, S.; Sepulchre, A.; Fremaux, C.; Corrieu, G.
CORPORATE SOURCE: Unite Mixte de Recherche Genie et Microbiol. des Procedes Alimentaires, INRA, 78850 Thiverval-Grignon, France. E-mail monnet(a)grignon.inra

SOURCE: Journal of Dairy Science, (2004) 87 (6) 1634-1640, 19 ref.
ISSN: 0022-0302
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Natural variations in the urea content of milk have a detrimental effect on the regularity of acidification by Streptococcus ***thermophilus*** strains used in dairy processes. This study sought to investigate the stability, acidifying activity and ***bacteriophage*** ***resistance*** of 4 urease-deficient mutants of S. ***thermophilus*** . Using an improved screening medium, mutants were selected from 4 different parent strains after mutagen treatment and by spontaneous ***mutation*** . Most mutants were stable and had a ***phage*** sensitivity profile similar to that of their parent strain. However, some mutants contained detrimental secondary ***mutations*** , as their acidifying activity was lower than that of the parent strain cultivated in the presence of the urease inhibitor flurofamide. The proportion of this type of mutant was much lower among spontaneous mutants than among mutants selected after mutagen treatment. It is concluded that utilization of urease-deficient mutants in dairy processes may have several advantages, such as an increase in acidification, an improved regularity of acidification, and a lower production of ammonia in whey.

L7 ANSWER 10 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:23612 USPATFULL
TITLE: Thermus promoters for gene expression
INVENTOR(S): Peredeltchouk, Mikhail, Chicago, IL, UNITED STATES
Vonstein, Veronika, Chicago, IL, UNITED STATES
Demirjian, David, Hinsdale, IL, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003017452	A1	20030123
APPLICATION INFO.:	US 2000-748463	A1	20001226 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1999-390867, filed on 7 Sep 1999, PATENTED
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 South Wacker Drive, Chicago, IL, 60606
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Page(s)
LINE COUNT: 1488
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a system for identifying, isolating and utilizing promoter elements useful for expression of nucleotide sequences and the proteins encoded thereby in a thermophile. In one embodiment, a recombinant DNA molecule is provided, and comprises a reporter sequence, a putative thermophile promoter, a selectable marker sequence, and a 3' and a 5' DNA targeting sequence that are together capable of causing integration of at least a portion of said DNA molecule into the genome of a thermophile. Further, within the recombinant DNA, the reporter sequence is under the transcriptional control of a promoter which functions in a thermophile to form a promoter/reporter cassette, the promote/reporter cassette is flanked by said 3' and said 5' DNA targeting sequences, and the promoter/reporter cassette is positioned in the opposite orientation of the DNA targeting sequences.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 11 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:240330 USPATFULL
TITLE: Nucleic acid and amino acid sequences relating to Enterococcus faecalis for diagnostics and therapeutics
INVENTOR(S): Doucette-Stamm, Lynn A., 14 Flanagan Dr., Framingham, MA, United States 01701
Bush, David, 205 Holland St., Somerville, MA, United States 02144

NUMBER KIND DATE

PATENT INFORMATION: US 6617156 B1 20030909
APPLICATION INFO.: US 1998-134000 19980813 (9)

NUMBER DATE

PRIORITY INFORMATION: US 1997-55778P 19970815 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Mosher, Mary E.
LEGAL REPRESENTATIVE: Genome Therapeutics Corporation
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1,5,14
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 13738
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated polypeptide and nucleic acid sequences derived from Enterococcus faecalis that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 12 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2003:190673 USPATFULL
TITLE: Staphylococcus aureus polynucleotides and sequences
INVENTOR(S): Kunsch, Charles A., Norcross, GA, United States
Choi, Gil H., Rockville, MD, United States
Barash, Steven, Rockville, MD, United States
Dillon, Patrick J., Carlsbad, CA, United States
Fannon, Michael R., Silver Spring, MD, United States
Rosen, Craig A., Laytonsville, MD, United States
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., Rockville, MD, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION: US 6593114 B1 20030715
APPLICATION INFO.: US 1997-956171 19971020 (8)
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-781986, filed on 3 Jan 1997

NUMBER DATE

PRIORITY INFORMATION: US 1996-9861P 19960105 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Duffy, Patricia A.
LEGAL REPRESENTATIVE: Human Genome Sciences, Inc.
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 7835
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides polynucleotide sequences of the genome of Staphylococcus aureus, polypeptide sequences encoded by the polynucleotide sequences, corresponding polynucleotides and polypeptides, vectors and hosts comprising the polynucleotides, and assays and other uses thereof. The present invention further provides polynucleotide and polypeptide sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 13 OF 53 USPATFULL on STN

ACCESSION NUMBER: 2003:169096 USPATFULL
TITLE: Nucleic acid sequences and expression system relating to Enterococcus faecium for diagnostics and therapeutics
INVENTOR(S): Doucette-Stamm, Lynn A., Framingham, MA, United States
Bush, David, Somerville, MA, United States
PATENT ASSIGNEE(S): Genome Therapeutics Corporation, Waltham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6583275	B1	20030624
APPLICATION INFO.:	US 1998-107532		19980630 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-85598P	19980514 (60)
	US 1997-51571P	19970702 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Marschel, Ardin H.
LEGAL REPRESENTATIVE: Genome Therapeutics Corporation
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 15265
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated polypeptide and nucleic acid sequences derived Enterococcus faecium that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 14 OF 53 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:724637 CAPLUS
DOCUMENT NUMBER: 140:160320
TITLE: Selection of bacteriophage-resistant mutants of Streptococcus thermophilus
AUTHOR(S): Viscardi, M.; Capparelli, R.; Di Matteo, R.; Carminati, D.; Giraffa, G.; Iannelli, D.
CORPORATE SOURCE: University of Naples "Federico II", Naples, 80055, Italy
SOURCE: Journal of Microbiological Methods (2003), 55(1), 109-119
CODEN: JMIMDQ; ISSN: 0167-7012
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Phage-resistant mutants have been isolated from Streptococcus thermophilus. Selection was carried out using anti-phage antibodies or Hoechst 33258-labeled phages. Two mutants out of eight tested displayed reduced acidifying capacity. Selection of the bacteria that extruded more rapidly the fluorochrome 5-6-carboxyfluorescein diacetate (CFDA) restored the acidifying capacity of these two mutants to the level of the parental strains. Mutants displaying phage resistance and good acidifying capacity were obtained in 4-5 days. New phages that are able to overcome the protection mechanisms of the existing bacteria arise continually in the dairy environment. The procedures described here permit to replace promptly the starter culture susceptible to newly emerged phages with a resistant one.
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 15 OF 53 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 1
ACCESSION NUMBER: 2003:93012 LIFESCI
TITLE: Sequence analysis and characterization of plasmids from Streptococcus thermophilus

AUTHOR: Geis, A.*; El Demerdash, H.A.M.; Heller, K.J.
CORPORATE SOURCE: Federal Dairy Research Centre, Institute for Microbiology, Hermann-Weigmann-Strasse 1, 24103 Kiel, Germany
Communicated by R. Bernander; E-mail: geis@bafm.de
SOURCE: Plasmid, (20030700) vol. 50, no. 1, pp. 53-69.
ISSN: 0147-619X.
DOCUMENT TYPE: Journal
FILE SEGMENT: G; J
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The nucleotide sequences of eight plasmids isolated from seven Streptococcus ***thermophilus*** strains have been determined. Plasmids pSt04, pER1-1, and pJ34 are related and replicate via a rolling circle mechanism. Plasmid pJ34 encodes for a replication initiation protein (RepA) and a small polypeptide with unknown function. Plasmids pSt04 and pER1-1 carry in addition to repA genes coding for small heat shock proteins (sHsp). Expression of these proteins is induced at elevated temperatures or low pH and increases the thermo- and acid ***resistance*** . Plasmids pER1-2 and pSt22-2 show identical sequences with five putative open reading frames (ORFs). The gene products of ORF1 and ORF4 reveal some similarities to transposon encoded proteins of Bacillus subtilis and Tn916. ORF1 of plasmid pSt106 encodes a protein similar to resolvases of different Gram-positive bacteria. Integrity of ORF2 and 3, encoding a putative DNA primase and a replication protein, is essential for replication. ORF1 to 3 of plasmid pSt08, which are organized in a tricistronic operon, encode a RepA protein, an adenosine-specific methyltransferase, and a type II restriction endonuclease. Another type II restriction- ***modification*** (R/M) system is encoded on plasmid pSt0 which is highly similar to those encoded on lactococcal plasmid pHW393 and B. subtilis plasmid pXH13. Plasmid-free derivatives of strains St0 and St08 show increased ***phage*** sensitivity, indicating that in the wild-type strains the R/M systems are functionally expressed. Recombinant plasmids based on the replicons of plasmids pSt04, pJ34, pSt106, pSt08, and pSt0, are able to replicate in Lactococcus lactis and B. subtilis, respectively, whereas constructs carrying pER1-2 only replicate in S. ***thermophilus*** .

L7 ANSWER 16 OF 53 FROSTI COPYRIGHT 2005 LFRA on STN
ACCESSION NUMBER: 612987 FROSTI
TITLE: Bacteriophages in cheesemaking.
AUTHOR: Powell I.
SOURCE: Australian Dairy Foods, 2003, (April), 24 (5), 26-28 (0 ref.)
Published by: Indigo Arch Pty Ltd. Address: PO Box 629, Malvern, Victoria 3144, Australia. Telephone: +61 (3) 9576 1275. Fax: +61 (3) 9576 1276. Email: publisher@indigoarch.com.au
ISSN: 0157-7964
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The structure, characteristics and mechanism of action of ***bacteriophages*** (***phages***), which are viruses that infect bacteria, and their relevance to the cheesemaking industry are considered. Examples are given of ***phages*** that infect strains of Lactococcus lactis and Streptococcus ***thermophilus*** . ***Phages*** with altered properties can arise by ***mutation*** or by natural genetic recombination between different ***phages*** of the same species. ***Phages*** that infect starter bacteria may be present in raw milk, and, once they are in a cheese factory, they can become part of the local ecosystem, as well as being part of a broader environment including other dairy factories. Techniques based on the polymerase chain reaction have been used to obtain genetic fingerprints of lactococcal ***phages*** of the most common species. The various stages of ***phage*** infection in a cheese factory and methods for reducing infection are discussed. The possibility of developing ***phage*** - ***resistant*** starter cultures is considered. As yet, safety concerns have prevented the use of GMOs as starter organisms with reduced ***phage*** sensitivity.

L7 ANSWER 17 OF 53 USPATFULL on STN

ACCESSION NUMBER: 2002:221971 USPATFULL
TITLE: ENTEROCOCCUS FAECALIS POLYNUCLEOTIDES AND POLYPEPTIDES
INVENTOR(S): KUNSCH, CHARLES A., ATLANTA, GA, UNITED STATES
DILLON, PATRICK J., CARLSBAD, CA, UNITED STATES
BARASH, STEVEN, ROCKVILLE, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002120116	A1	20020829
APPLICATION INFO.:	US 1998-70927	A1	19980504 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 13315
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides polynucleotide sequences of the genome of Enterococcus faecalis, polypeptide sequences encoded by the polynucleotide sequences, corresponding polynucleotides and polypeptides, vectors and hosts comprising the polynucleotides, and assays and other uses thereof. The present invention further provides polynucleotide and polypeptide sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 18 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:55159 USPATFULL
TITLE: STREPTOCOCCUS PNEUMONIAE POLYNUCLEOTIDES AND SEQUENCES
INVENTOR(S): KUNSCH, CHARLES A., GAITHERSBURG, MD, UNITED STATES
CHOI, GIL H., ROCKVILLE, MD, UNITED STATES
DILLON, PATRICK J., CARLSBAD, CA, UNITED STATES
ROSEN, CRAIG A., LAYTONSVILLE, MD, UNITED STATES
BARASH, STEVEN C., ROCKVILLE, MD, UNITED STATES
FANNON, MICHAEL R., SILVER SPRING, MD, UNITED STATES
DOUGHERTY, BRIAN A., MT. AIRY, MD, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002032323	A1	20020314
	US 6420135	B2	20020716
APPLICATION INFO.:	US 1997-961527	A1	19971030 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-29960P	19961031 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 7752
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides polynucleotide sequences of the genome of Streptococcus pneumoniae, polypeptide sequences encoded by the polynucleotide sequences, corresponding polynucleotides and polypeptides, vectors and hosts comprising the polynucleotides, and assays and other uses thereof. The present invention further provides polynucleotide and polypeptide sequence information stored on computer readable media, and computer-based systems and methods which facilitate its use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 19 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2002:24169 USPATFULL
TITLE: Methods for isolation of thermophile promoters
INVENTOR(S): Peredultchuk, Mikhail, Chicago, IL, United States
Vonstein, Veronica, Chicago, IL, United States
Demirjian, David, Hinsdale, IL, United States
PATENT ASSIGNEE(S): Thermogen, Inc., United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6344327	B1	20020205
APPLICATION INFO.:	US 2000-548260		20000412 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-390867, filed on 7 Sep 1999
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Guzo, David
ASSISTANT EXAMINER: Leffers, Jr., Gerald G.
LEGAL REPRESENTATIVE: McDonnell Boehnen Hulbert & Berghoff
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 1434
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a system for identifying, isolating and utilizing promoter elements useful for expression of nucleotide sequences and the proteins encoded thereby in a thermophile. In one embodiment, a recombinant DNA molecule is provided, and comprises a reporter sequence, a putative thermophile promoter, a selectable marker sequence, and a 3' and a 5' DNA targeting sequence that are together capable of causing integration of at least a portion of said DNA molecule into the genome of a thermophile. Further, within the recombinant DNA, the reporter sequence is under the transcriptional control of a promoter which functions in a thermophile to form a promoter/reporter cassette, the promote/reporter cassette is flanked by said 3' and said 5' DNA targeting sequences, and the promoter/reporter cassette is positioned in the opposite orientation of the DNA targeting sequences.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 20 OF 53 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2001:168151 CAPLUS
DOCUMENT NUMBER: 134:217998
TITLE: Phage resistant bacteria
INVENTOR(S): Bruessow, Harald; Lucchini, Sacha
PATENT ASSIGNEE(S): Societe des Produits Nestle S.A., Switz.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016329	A2	20010308	WO 2000-EP7696	20000808
WO 2001016329	A3	20010614		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1212425	A2	20020612	EP 2000-960410	20000808
EP 1212425	B1	20051012		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO, MK, CY, AL
PRIORITY APPLN. INFO.: GB 1999-20431 A 19990827
WO 2000-EP7696 W 20000808
AB The invention relates to an Streptococcus thermophilus bacterium which is resistant to attack by at least one bacteriophage, a method of prodn. of the bacterium and a compn. which comprises the bacterium. The bacterium comprises a modification of the .phi.Sfi21 prophage or the bacterial genome which disrupts expression of a gene which is essential to a bacteriophage, but not essential to the bacteria.

L7 ANSWER 21 OF 53 USPATFULL on STN
ACCESSION NUMBER: 2001:163028 USPATFULL
TITLE: Thermus promoters for gene expression
INVENTOR(S): Peredultchuk, Mikhail, Chicago, IL, United States
Vonstein, Veronica, Chicago, IL, United States
Demirjian, David C., Hinsdale, IL, United States
PATENT ASSIGNEE(S): Thermogen, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6294358	B1	20010925
APPLICATION INFO.:	US 1999-390867		19990907 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Guzo, David
ASSISTANT EXAMINER: Leffers, Jr., Gerald G.
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 5
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)
LINE COUNT: 1232
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a system for identifying, isolating and utilizing promoter elements useful for expression of nucleotide sequences and the proteins encoded thereby in a thermophile. In one embodiment, a recombinant DNA molecule is provided, and comprises a reporter sequence, a putative thermophile promoter, a selectable marker sequence, and a 3' and a 5' DNA targeting sequence that are together capable of causing integration of at least a portion of said DNA molecule into the genome of a thermophile. Further, within the recombinant DNA, the reporter sequence is under the transcriptional control of a promoter which functions in a thermophile to form a promoter/reporter cassette, the promote/reporter cassette is flanked by said 3' and said 5' DNA targeting sequences, and the promoter/reporter cassette is positioned in the opposite orientation of the DNA targeting sequences.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 22 OF 53 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-335942 [35] WPIDS
DOC. NO. CPI: C2001-103850
TITLE: Producing nucleotides with modified properties, comprises forming double-stranded polynucleotides from single-stranded molecules, degrading double-stranded molecules and template-directed single-strand synthesis.
DERWENT CLASS: B04 D16
INVENTOR(S): EIGEN, M; KETTLING, U; KOLTERMANN, A
PATENT ASSIGNEE(S): (DIRE-N) DIREVO BIOTECH AG; (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001034835	A2	20010517 (200135)*		EN	44

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC

LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
DE 19953854 A1 20010628 (200138)
AU 2001015201 A 20010606 (200152)
DE 19953854 C2 20020117 (200207)
EP 1230390 A2 20020814 (200261) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR
JP 2003513652 W 20030415 (200328) 59
EP 1230390 B1 20040922 (200462) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
DE 60014150 E 20041028 (200471)
US 6821758 B1 20041123 (200477)
ES 2223613 T3 20050301 (200519)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001034835	A2	WO 2000-EP11049	20001108
DE 19953854	A1	DE 1999-1053854	19991109
AU 2001015201	A	AU 2001-15201	20001108
DE 19953854	C2	DE 1999-1053854	19991109
EP 1230390	A2	EP 2000-977514	20001108
		WO 2000-EP11049	20001108
JP 2003513652	W	WO 2000-EP11049	20001108
		JP 2001-536760	20001108
EP 1230390	B1	EP 2000-977514	20001108
		WO 2000-EP11049	20001108
DE 60014150	E	DE 2000-00014150	20001108
		EP 2000-977514	20001108
		WO 2000-EP11049	20001108
US 6821758	B1	US 2000-708497	20001109
ES 2223613	T3	EP 2000-977514	20001108

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001015201	A	Based on	WO 2001034835
EP 1230390	A2	Based on	WO 2001034835
JP 2003513652	W	Based on	WO 2001034835
EP 1230390	B1	Based on	WO 2001034835
DE 60014150	E	Based on	EP 1230390
		Based on	WO 2001034835
ES 2223613	T3	Based on	EP 1230390

PRIORITY APPLN. INFO: DE 1999-19953854 19991109
AN 2001-335942 [35] WPIDS
AB WO 200134835 A UPAB: 20010625
NOVELTY - Producing polynucleotide molecules (I) with modified properties, involves providing a population (P) of single-stranded polynucleotide molecules, forming double-stranded polynucleotide molecules (DP) of (P), partial and exonucleolytic single-strand degradation of DP, and template-directed single-strand synthesis starting from the degraded ends of the partially degraded double strands.

DETAILED DESCRIPTION - Producing polynucleotide molecules (I) with modified properties, where at least one cycle, involves:

(a) providing a population (P) of single-stranded polynucleotide molecules, where the individual polynucleotides of the population have both homologous and heterologous sequence segments, and strands are also contained that are each completely or partially complementary to these single strands;

(b) forming double-stranded polynucleotide molecules (DP) of (P), comprising double strands with different heterologous sequence segments;

(c) partial, exonucleolytic single-strand degradation of DP; and

(d) template-directed single-strand synthesis starting from the degraded ends of the partially degraded double strands produced, where degradation of DP and template-directed single-strand synthesis are carried out subsequently or contemporaneously.

An INDEPENDENT CLAIM is also included for a kit containing components and instructions for carrying out the new method.

USE - The method is useful for production of biopolymers e.g., polynucleotide molecules with modified properties (claimed).

ADVANTAGE - Two or more different heterologous sequence segments located on two different single-stranded polynucleotides to be joined to new semiconservative single-stranded polynucleotides, is possible. Semiconservative single-stranded polynucleotides both with identical and different ratios of conservative and new sequence segments can be produced depending on the controlled execution of the exonucleolytic degradation. Dwg.0/8

L7 ANSWER 23 OF 53 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 3
ACCESSION NUMBER: 2002:69656 CABA
DOCUMENT NUMBER: 20023031796
TITLE: Characterization of a novel type II restriction-modification system, Sth368I, encoded by the integrative element ICESt1 of Streptococcus thermophilus CNRZ368
AUTHOR: Burrus, V.; Bontemps, C.; Decaris, B.; Guedon, G.
CORPORATE SOURCE: Laboratoire de Genetique et Microbiologie (INRA UA952), Faculte des Sciences, Universite Henri Poincare (Nancy 1), 54506 Vandoeuvre-les-Nancy, France. decaris@nancy.inra.fr
SOURCE: Applied and Environmental Microbiology, (2001) Vol. 67, No. 4, pp. 1522-1528. 38 ref.
Publisher: American Society for Microbiology (ASM). Washington
ISSN: 0099-2240
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 20020405
Last Updated on STN: 20020405
AB A novel type II restriction and ***modification*** (R-M) system, Sth368I, which confers ***resistance*** to [phi]ST84, was found in Streptococcus ***thermophilus*** CNRZ368 but not in the very closely related strain A054. Partial sequencing of the integrative conjugative element ICESt1, carried by S. ***thermophilus*** CNRZ368 but not by A054, revealed a divergent cluster of 2 genes, sth368IR and sth368IM. The protein sequence encoded by sth368IR is related to the type II endonucleases R.LlaKR2I and R.Sau3AI, which recognize and cleave the sequence 5[prime]-GATC-3[prime]. The protein sequence encoded by sth368IM is very similar to numerous type II 5-methylcytosine methyltransferases, including M.LlaKR2I and M.Sau3AI. Cell extracts of CNRZ368 but not A054 were found to cleave at the GATC site. Furthermore, the C residue of the sequence 5[prime]-GATC-3[prime] was found to be methylated in CNRZ368 but not in A054. Cloning and integration of a copy of sth368IR and sth368IM in the A054 chromosome confers on this strain phenotypes similar to those of CNRZ368, i.e., ***phage*** ***resistance*** , endonuclease activity of cell extracts, and methylation of the sequence 5[prime]-GATC-3[prime]. Disruption of sth368IR removes ***resistance*** and restriction activity. We conclude that ICESt1 encodes an R-M system, Sth368I, which recognizes the sequence 5[prime]-GATC-3[prime] and is related to the Sau3AI and LlaKR2I restriction systems.

L7 ANSWER 24 OF 53 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 4
ACCESSION NUMBER: 2002:23208 LIFESCI
TITLE: Comparative Genomics Reveals Close Genetic Relationships between Phages from Dairy Bacteria and Pathogenic Streptococci: Evolutionary Implications for Prophage-Host Interactions
AUTHOR: Desiere, F.; Mcshan, W.M.; Van Sinderen, D.; Ferretti, J.J.; Bruessow, H.*
CORPORATE SOURCE: Nestle Research Center, Nestec Ltd., Vers-chez-les-Blanc, CH Lausanne 26, Switzerland; E-mail: harald.bruessow@rdls.nestle.com
SOURCE: Virology, (20010930) vol. 288, no. 2, pp. 325-341.
ISSN: 0042-6822.
DOCUMENT TYPE: Journal

FILE SEGMENT: V; G; J
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The genome of the highly pathogenic M1 serotype Streptococcus pyogenes isolate SF370 contains eight prophage elements. Only prophage SF370.1 could be induced by mitomycin C treatment. Prophage SF370.3 showed a 33.5-kb-long genome that closely resembled the genome organization of the cos-site temperate Siphovirus r1t infecting the dairy bacterium Lactococcus lactis. The two- ***phage*** genomes shared between 60 and 70% nucleotide sequence identity over the DNA packaging, head and tail genes. Analysis of the SF370.3 genome revealed ***mutations*** in the replisome organizer gene that may prevent the induction of the prophage. The ***mutated*** ***phage*** replication gene was closely related to a virulence marker identified in recently emerged M3 serotype S. pyogenes strains in Japan. This observation suggests that prophage genes confer selective advantage to the lysogenic host. SF370.3 encodes a hyaluronidase and a DNase that may facilitate the spreading of S. pyogenes through tissue planes of its human host. Prophage SF370.2 showed a 43-kb-long genome that closely resembled the genome organization of pac-site temperate Siphoviridae infecting the dairy bacteria S. ***thermophilus*** and L. lactis. Over part of the structural genes, the similarity between SF370.2 and S. ***thermophilus*** ***phage*** O1205 extended to the nucleotide sequence level. SF370.2 showed two probable inactivating ***mutations*** : one in the replisome organizer gene and another in the gene encoding the portal protein. Prophage SF370.2 also encodes a hyaluronidase and in addition two very likely virulence factors: prophage-encoded toxins acting as superantigens that may contribute to the ***immune*** deregulation observed during invasive streptococcal infections. The superantigens are encoded between the ***phage*** lysin and the right attachment site of the prophage genome. The genes were nearly sequence identical with a DNA segment in S. equi, suggesting horizontal gene transfer. The trend for prophage genome inactivation was even more evident for the remaining five prophage sequences that showed massive losses of prophage DNA. In these prophage remnants only 13-0.3 kb of putative prophage DNA was detected. We discuss the genomics data from S. pyogenes strain SF370 within the framework of Darwinian coevolution of prophages and lysogenic bacteria and suggest elements of genetic cooperation and elements of an arms race in this host-parasite relationship. Copyright 2001 Academic Press.

L7 ANSWER 25 OF 53 FROSTI COPYRIGHT 2005 LFRA on STN
ACCESSION NUMBER: 578071 FROSTI
TITLE: Traditional and molecular approaches to improving bacteriophage resistance of Cheddar and Mozzarella cheese starters.
AUTHOR: Coffey A.; Stokes D.; Fitzgerald G.F.; Ross R.P.
SOURCE: Irish Journal of Agricultural and Food Research, 2001, (December), 40 (2), 239-270 (many ref.)
Published by: Teagasc Address: 19 Sandymount Avenue, Dublin 4, Ireland
ISSN: 0791-6833
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: English
AB ***Bacteriophages*** cause significant losses of cheese starter bacteria, particularly in continuous-culture processes. This review considers the development of starter systems for Cheddar and Mozzarella cheeses; practical strategies to minimize problems with ***bacteriophages*** in these starters; ***phages*** of Lactococcus lactis and Streptococcus ***thermophilus*** ; bacterial ***phage*** defence mechanisms (***phage*** adsorption inhibition, restriction and ***modification*** , ***phage*** abortive infection, and engineered ***resistance*** mechanisms); strain improvement by genetic ***modification*** ('self-cloning' techniques); introduction of ***phage*** ***resistance*** plasmids to cheese starters; and the effects of ***phage*** ***resistance*** systems on ***phage*** development.

L7 ANSWER 26 OF 53 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 2000-594339 [56] WPIDS

DOC. NO. CPI: C2000-177538
TITLE: Nucleotide base sequencing method is used for direct nucleic acid sequencing with a polymerase, nucleic acid sample, primers and four different labeled nucleotides, without the need for amplification.
DERWENT CLASS: B04 D16
INVENTOR(S): ARMES, N A; STEMPLE, D L
PATENT ASSIGNEE(S): (ASMS-N) ASM SCI INC
COUNTRY COUNT: 92
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000053805	A1	20000914 (200056)*		EN	50
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000031746	A	20000928 (200067)			
EP 1159453	A1	20011205 (200203)		EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2002537858	W	20021112 (200275)			64
AU 2005201777	A1	20050519 (200537)#			

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000053805	A1	WO 2000-GB873	20000310
AU 2000031746	A	AU 2000-31746	20000310
EP 1159453	A1	EP 2000-909464	20000310
		WO 2000-GB873	20000310
JP 2002537858	W	JP 2000-603426	20000310
		WO 2000-GB873	20000310
AU 2005201777	A1 Div ex	AU 2000-31746	20000310
		AU 2005-201777	20050428

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000031746	A Based on	WO 2000053805
EP 1159453	A1 Based on	WO 2000053805
JP 2002537858	W Based on	WO 2000053805

PRIORITY APPLN. INFO: US 1999-266187 19990310; AU 2005-201777 20050428
AN 2000-594339 [56] WPIDS
AB WO 200053805 A UPAB: 20001106
NOVELTY - Nucleotide base sequencing method using immobilized polymerase, nucleic acid sample, different oligonucleotide primers and differentially labeled four different nucleotides, is new.
DETAILED DESCRIPTION - Method of nucleotide base sequencing comprises:
(a) immobilizing a polymerase on a solid support;
(b) providing a nucleic acid sample and different oligonucleotide primers, where the nucleic acid sample hybridizes to an oligonucleotide primer;
(c) providing four different nucleotides, each differentially-labeled with a detachable labeling group and blocked at the 3' portion with a detachable blocking group, where the polymerase extends the primer hybridized to the nucleic acid sample with the differentially-labelled nucleotide that is complementary to the sample nucleic acid;
(d) removing nucleotides that have not been incorporated in the primer;
(e) detecting the labeled nucleotide incorporated into the elongating primer, and identifying the complement of the labeled 3'-blocked

nucleotide;

(f) separating and then removing the 3' blocking group and the labeling group from the incorporated nucleotide;

(g) confirming separation and removal of the 3' blocking group from the nucleotide incorporated in the primer; and

(h) repeating steps (c) to (f) until either no new nucleotides are incorporated in step (c) or the 3' blocking group persists in not being separated and removed in step (f), where the order in which the labeled nucleotide in step (d) are detected corresponds to the complement of the sequence of at least a portion of the nucleic acid sample.

INDEPENDENT CLAIMS are also included for the following:

(1) an immobilized polymerase system (I) for contacting nucleic acid comprising a reaction center comprising a solid support and a polymerase immobilized on the solid support, a nucleic acid sample and an oligonucleotide primer capable of hybridizing to the nucleic acid sample; and

(2) an array of immobilized polymerase systems comprising (I) where the polymerase is immobilized onto a solid support with sufficient physical separation to permit resolution.

USE - The method is useful for direct nucleotide base sequencing (claimed) for genetic diagnosis in medicine e.g. diagnosing carriers of harmful genetic traits, identifying mutant genes, analyzing cancers which begin with specific alterations in the genome of a cell, whole genome sequencing and forensic applications.

ADVANTAGE - Unlike prior art sequencing method, the method is rapid, economical and eliminates the need for amplification, prior knowledge of part of the nucleotide sequence to generate sequencing primers and labor-intensive electrophoresis techniques.

Dwg.0/8

L7 ANSWER 27 OF 53 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 5
ACCESSION NUMBER: 2000:661102 CAPLUS
DOCUMENT NUMBER: 134:15093
TITLE: Broad-range bacteriophage resistance in Streptococcus thermophilus by insertional mutagenesis
AUTHOR(S): Lucchini, Sacha; Sidoti, Josette; Brussow, Harald
CORPORATE SOURCE: Nestle Research Centre, Nestec Ltd., Lausanne, CH-1000, Switz.
SOURCE: Virology (2000), 275(2), 267-277
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Streptococcus thermophilus is a lactic acid bacterium used in industrial milk fermn. To obtain phage-resistant starters, S. thermophilus strain Sfi1 was submitted to mutagenesis with the thermolabile insertional vector pG+host9:ISS1 followed by a challenge with the lytic S. thermophilus phage Sfi19. Vector insertions into four distinct sites led to a phage-resistance phenotype. Three mutants were characterized further. They were protected against the homologous challenging phage and 14 heterologous phages. All three mutants adsorbed phages. No intracellular phage DNA synthesis was obsd. in mutants R7 and R71, while mutant R24 showed a delayed and diminished phage DNA synthesis compared to the parental Sfi1 strain. In mutant R7 a short deletion occurred next to the insertion site which removed the upstream sequences and the 15 initial codons from orf 394, encoding a likely transmembrane protein. Analogy with other phage systems suggests an involvement of this protein in the phage DNA injection process. In mutant R24 the vector was inserted into orf 269 predicting an oxido-reductase. When the vector sequence was removed via homologous recombination across the duplicated insertion elements, mutant R24 returned to the phage susceptibility of the parental strain. This observation suggested that inactivation of orf 269 was not crucial for the resistance phenotype. A gene encoding a likely restriction subunit of a type I restriction-modification system was located directly downstream of the insertion site in mutant R24. hsdM and hsdS genes encoding the modification and specificity subunits of a type I R-M system and biol. evidence for an active R-M system were detected in strain Sfi1, suggesting involvement of a type I R-M system in the resistance phenotype of R24. (c) 2000 Academic Press.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 28 OF 53 USPATFULL on STN DUPLICATE 6
ACCESSION NUMBER: 1999:132562 USPATFULL
TITLE: Enzyme for phage resistance
INVENTOR(S): Moineau, Sylvain, Bradenton, FL, United States
Walker, Shirley A., Raleigh, NC, United States
Vedamuthu, Ebenezer R., Bradenton, FL, United States
Vandenbergh, Peter A., Sarasota, FL, United States
PATENT ASSIGNEE(S): Quest International Flavors & Food Ingredients Company, Bridgewater, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5972673		19991026
APPLICATION INFO.:	US 1997-826439		19970318 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-424641, filed on 19 Apr 1995 which is a continuation-in-part of Ser. No. US 1994-366480, filed on 30 Dec 1994, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lau, Kawai
LEGAL REPRESENTATIVE: McLeod, Ian C.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1428
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated DNA of a Lactococcus lactisshowing a SEQ ID NO:1 encoding a restriction and two ***modification*** enzymes (R/M SEQ ID NO: 2, 3 and 4). The isolated DNA is used to transform sensitive dairy cultures, such as Lactococcus lactis and Streptococcus ***thermophilus*** , to provide ***phage*** ***resistance*** . Escherichia coli can be used to produce endonucleases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 29 OF 53 USPATFULL on STN
ACCESSION NUMBER: 1999:128345 USPATFULL
TITLE: Use of centrifugation to prepare a retractable seal over reagents in a reaction container
INVENTOR(S): Kosak, Kenneth M., 3194 S. 4400 West, West Valley City, UT, United States 84120
Kosak, Matthew K., 272 E. New Century La., #F72, Salt Lake City, UT, United States 84115

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5968729		19991019
APPLICATION INFO.:	US 1998-49707		19980328 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-918374, filed on 26 Aug 1997 which is a continuation-in-part of Ser. No. US 1994-257567, filed on 10 Jun 1994, now patented, Pat. No. US 5550044, issued on 27 Aug 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
LINE COUNT: 1747
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method is provided using centrifugation to prepare a seal of solidified wax, grease or polymer mix over an aqueous reagent in a reaction container such that the reagent is separated from contact with the atmosphere. The amount of solidified wax, grease or polymer mix is not sufficient when melted to a liquid to separate the reagent from contact with the atmosphere under gravity. A reagent and solidified wax, grease or polymer mix are combined in a container. During centrifugation and heating, the solidified wax, grease or polymer mix melts to a liquid, and centrifuging causes the liquid to form over the reagent a

layer that completely separates the reagent from the atmosphere. As centrifugation continues, the liquid is cooled and solidified to form the seal. Additional reagents are preferably added on top of the seal such that when the container is heated and the seal melted the upper and lower reagents mix for reaction. Preferred use of sealing reagents by this method is in polymerase chain reaction (PCR), reverse transcriptase reactions, nucleic acid sequencing, and colorimetric, fluorometric or chemiluminescent labeled immunoassays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 30 OF 53 USPATFULL on STN
ACCESSION NUMBER: 1999:81580 USPATFULL
TITLE: Isolated DNA encoding enzyme for phage resistance
INVENTOR(S): Moineau, Sylvain, Bradenton, FL, United States
Walker, Shirley A., Raleigh, NC, United States
Vedamuthu, Ebenezer R., Bradenton, FL, United States
Vandenbergh, Peter A., Sarasota, FL, United States
PATENT ASSIGNEE(S): Quest International Flavors & Food Ingredients Company, Bridgewater, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5925388		19990720
APPLICATION INFO.:	US 1997-820980		19970319 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1995-424641, filed on 19 Apr 1995 which is a continuation-in-part of Ser. No. US 1994-366480, filed on 30 Dec 1994, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Lau, Kawai
LEGAL REPRESENTATIVE: McLeod, Ian C.
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1407
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated DNA of a Lactococcus lactis showing a SEQ ID NO:1 encoding a restriction and twp ***modification*** enzymes (R/M SEQ ID NO: 2, 3 and 4). The isolated DNA is used to transform sensitive dairy cultures, such as Lactococcus lactis and Streptococcus ***thermophilus*** , to provide ***phage*** ***resistance*** . Escherichia coli can be used to produce endonucleases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 31 OF 53 LIFESCI COPYRIGHT 2005 CSA on STN DUPLICATE 7
ACCESSION NUMBER: 1999:107245 LIFESCI
TITLE: The Genetic Relationship between Virulent and Temperate Streptococcus thermophilus Bacteriophages: Whole Genome Comparison of cos-Site Phages Sfi19 and Sfi21
AUTHOR: Lucchini, S.; Desiere, F.; Bruessow, H.
CORPORATE SOURCE: Nestle Research Centre, Nestec Ltd., Vers-chez-les-Blanc, Lausanne 26, CH-1000, Switzerland; E-mail: harald.bruessow@rdls.nestle.com
SOURCE: Virology, (19990801) vol. 260, no. 2, pp. 232-243. ISSN: 0042-6822.
DOCUMENT TYPE: Journal
FILE SEGMENT: V; G
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The virulent cos-site Streptococcus ***thermophilus*** ***bacteriophage*** Sfi19 has a 37,392-bp-long genome consisting of 44 open reading frames all encoded on the same DNA strand. The genome of the temperate cos-site S. ***thermophilus*** ***phage*** ***Sfi21*** is 3.3 kb longer (40,740 bp, 53 orfs). Both genomes are very similarly organized and differed mainly by gene deletion and DNA rearrangement events in the lysogeny module; gene replacement, duplication, and deletion events in the DNA replication module, and numerous point ***mutations*** . The level of point ***mutations*** varied from <1% (lysis and DNA

replication modules) to >15% (DNA packaging and head morphogenesis modules). A dotplot analysis showed nearly a straight line over the left 25 kb of their genomes. Over the right genome half, a more variable dotplot pattern was observed. The entire lysogeny module from ***Sfi21*** comprising 12 genes was replaced by 7 orfs in Sfi19, six showed similarity with genes from temperate pac-site S. ***thermophilus*** ***phages*** . None of the genes implicated in the establishment of the lysogenic state (integrase, superinfection ***immunity*** , repressor) or remnants of it were conserved in Sfi19, while a Cro-like repressor was detected. Downstream of the highly conserved DNA replication module 11 and 13 orfs were found in Sfi19 and phi ***Sfi21*** , respectively: Two orfs from ***Sfi21*** were replaced by a different gene and a duplication of the ***phage*** origin of replication in Sfi19; a further orf was only found in ***Sfi21*** . All other orfs from this region, which included a second putative ***phage*** repressor, were closely related between both ***phages*** . Two noncoding regions of Sfi19 showed sequence similarity to pST1, a small cryptic plasmid of S. ***thermophilus*** .

L7 ANSWER 32 OF 53 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 8
ACCESSION NUMBER: 1999:24829 CABA
DOCUMENT NUMBER: 19990400891
TITLE: Structural and functional analysis of pCI65st, a 6.5 kb plasmid from Streptococcus thermophilus NDI-6
AUTHOR: O'Sullivan, T.; Sinderen, D. van; Fitzgerald, G.; van Sinderen, D.
CORPORATE SOURCE: Department of Microbiology, University College, Cork, Irish Republic.
SOURCE: Microbiology (Reading), (1999) Vol. 145, No. 1, pp. 127-134. 39 ref.
ISSN: 1350-0872
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19990310
Last Updated on STN: 19990310
AB The 6.5-kb cryptic plasmid pCI65st from Streptococcus ***thermophilus*** NDI-6, a strain isolated from the Indian cultured milk dahi, was subcloned and sequenced. Five putative open reading frames [ORF] were identified. ORF1 could encode a 315-amino acid polypeptide almost identical to the RepA protein of previously sequenced S. ***thermophilus*** plasmids, indicating that pCI65st is one of the pC194 group of small Gram-positive rolling-circle plasmids. ORF 2 and 4 were virtually identical and could specify proteins of approximately 150 amino acids with significant similarity to the small heat-shock proteins described from a variety of Gram-positive bacteria. ORF3 could encode a 415-amino acid protein similar to enolase, an enzyme involved in glycolysis and gluconeogenesis. ORF5 could encode a 412-amino acid protein which had high similarity to the HsdS (specificity) proteins of type I restriction- ***modification*** systems. Variants of strain NDI-6 which lacked pCI65st were readily isolated after subculture of the parent strain at 32[deg]C. The plasmid-bearing parent culture was significantly more ***resistant*** to a temperature shift from 42[deg]C to 62[deg]C than its plasmid-free variant and expressed proteins which corresponded with the predicted translation products from ORF2 and ORF4. In addition, plasmid-free mutants were lysed in broth by ***bacteriophages*** to which the parent culture was ***resistant*** .

L7 ANSWER 33 OF 53 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 9
ACCESSION NUMBER: 1998:681980 CAPLUS
DOCUMENT NUMBER: 129:299037
TITLE: DNA encoding restriction-modification enzymes for phage resistance in Lactococcus and Streptococcus
INVENTOR(S): Moineau, Sylvain; Walker, Shirley A.; Vedamuthu, Ebenezer R.; Vandenbergh, Peter A.
PATENT ASSIGNEE(S): Quest International Flavors & Food Ingredients Company, USA
SOURCE: U.S., 34 pp., Cont.-in-part of U.S. Ser. No. 366,480, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5824523	A	19981020	US 1995-424641	19950419
CA 2208107	AA	19960711	CA 1995-2208107	19951229
WO 9621017	A2	19960711	WO 1995-NL448	19951229
WO 9621017	A3	19961121		

W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI

RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9644972	A1	19960724	AU 1996-44972	19951229
AU 712169	B2	19991028		
EP 805861	A2	19971112	EP 1995-943558	19951229

R: CH, DE, DK, ES, FR, GB, IT, LI, NL

US 5972673	A	19991026	US 1997-826439	19970318
US 5925388	A	19990720	US 1997-820980	19970319

PRIORITY APPLN. INFO.: US 1994-366480 B2 19941230
US 1995-424641 A 19950419
WO 1995-NL448 W 19951229

AB The present invention relates to transformed dairy cultures with a natural 7.8-kb plasmid pSRQ700 which was isolated from Lactococcus lactis cremoris DCH-4. Plasmid pSRQ700 encodes a restriction/modification system named LlaII. When introduced into a phage-sensitive dairy culture, such as L. lactis, pSRQ700 confers strong phage resistance against the 3 most common lactococcal phage species: 936, c2, and P335 found in dairy product fermns. The LlaII endonuclease was purified and found to cleave the palindromic sequence 5'.uparw.GATC-3'. The low copy plasmid pSRQ700 was mapped and the genetic organization of LlaII localized. Cloning and sequencing of the entire LlaII system allowed the identification of 3 open reading frames. The 3 genes (llaIIA, llaIIB, and llaIIC) overlapped and are under one promoter; a terminator was found at the end of llaIIC. The genes llaIIA and llaIIB coded for m6A-methyltransferases and llaIIC for an endonuclease. The native LlaII R/M system from Lactococcus lactis is also expressed by and conferred strong phage resistance to various industrial Streptococcus thermophilus strains. Resistance was obsd. against phages isolated from yogurt and Mozzarella wheys. Escherichia coli can be used to produce the LlaII endonuclease.

REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 34 OF 53 USPATFULL on STN
ACCESSION NUMBER: 1998:68829 USPATFULL
TITLE: Phage-resistant streptococcus
INVENTOR(S): Mollet, Beat, Mollie-Margot, Switzerland
Pridmore, David, Lausanne, Switzerland
Zwahlen, Marie Camille, Lausanne, Switzerland
PATENT ASSIGNEE(S): Nestec S.A., Vevey, Switzerland (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5766904		19980616
APPLICATION INFO.:	US 1996-665119		19960614 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1995-201616	19950616

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Railey, II, Johnny F.
LEGAL REPRESENTATIVE: Pennie & Edmonds
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)

LINE COUNT: 635
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB DNA fragment of phages which are virulent towards a Streptococcus, capable of conferring on a Streptococcus containing it resistance to at least one phage, especially a fragment homologous or hybridizing to the 3.6 kb HindIII fragment present in the plasmid CNCM I-1588 or the 6.5 kb EcoRV fragment present in the plasmid CNCM I-1589. Process for making a Streptococcus resistant to at least one phage, by cloning into a vector a DNA fragment of a phage which is virulent towards a Streptococcus, capable of conferring on a Streptococcus resistance to at least one phage and introducing the vector into a Streptococcus.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 35 OF 53 FROSTI COPYRIGHT 2005 LFRA on STN
ACCESSION NUMBER: 465948 FROSTI
TITLE: Bacteriophages and lactic acid bacteria.
AUTHOR: Josephsen J.; Neve H.
SOURCE: Lactic acid bacteria: microbiology and functional aspects. (2nd edition), Published by: Marcel Dekker, New York, 1998, 385-436 (many ref.)
Salminen S.; von Wright A.
ISBN: 0-8247-0133-X
DOCUMENT TYPE: Book Article
LANGUAGE: English
AB ***Bacteriophages*** are a major problem for the fermentation industry, as ***bacteriophages*** can inhibit the growth of starter cultures. Food fermentations cannot be performed under strict aseptic conditions and therefore the control of ***phage*** is extremely important. An overview of ***bacteriophages*** is provided. ***Phage*** composition and morphology, the life cycle of ***phages*** (including the lytic and lysogenic cycles) and the origin of ***phages*** are discussed. Consideration is then given to ***phages*** that attack Lactococcus lactis, lactobacilli, Streptococcus ***thermophilus*** and Leuconostoc (including the classification and characterization of these ***phages***); mechanisms of ***phage*** ***resistance*** by lactic acid bacteria (adsorption inhibition, DNA-penetration blocking, restriction/ ***modification*** and abortive infection); modern ***phage*** control (the transfer of ***phage*** ***resistance*** determinants, antisense-RNA strategies and ***phage*** -encoded ***resistance***); ***phage*** counterdefense strategies; and ***phages*** as genetic tools (e.g. the construction of site-specific integration systems).

L7 ANSWER 36 OF 53 FROSTI COPYRIGHT 2005 LFRA on STN
ACCESSION NUMBER: 480496 FROSTI
TITLE: Phage resistance mechanisms in lactic acid bacteria.
AUTHOR: Allison G.E.; Klaenhammer T.R.
SOURCE: International Dairy Journal, 1998, (March), 8 (3), 207-226 (many ref.)
ISSN: 0958-6946
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: English
AB ***Bacteriophage*** infection of lactic acid bacteria, such as Lactococcus lactis and Streptococcus ***thermophilus*** , are a continuing concern in the production of fermented dairy products. The presence of ***bacteriophages*** can cause slow acid production or failure of fermentation. This review examines recent progress in efforts to protect dairy starter cultures. Naturally occurring ***bacteriophage*** - ***resistance*** mechanisms and novel ***phage*** - ***resistant*** mechanisms are described. Interactions of the ***bacteriophages*** with the host and natural ***phage*** defence mechanisms are discussed. The genetic ***modification*** of lactic acid bacteria for a range of beneficial functions and activities is also considered.

L7 ANSWER 37 OF 53 USPATFULL on STN
ACCESSION NUMBER: 97:94101 USPATFULL

TITLE: Compositions and methods for phage resistance in dairy fermentations
INVENTOR(S): Broadbent, Jeff R., Smithfield, UT, United States
Oberg, Craig J., Liberty, UT, United States
Caldwell, Shelby, Syracuse, UT, United States
PATENT ASSIGNEE(S): Utah State University, Office of Technology Commercialization, Logan, UT, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5677166		19971014
APPLICATION INFO.:	US 1995-462017		19950605 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Wax, Robert A.
ASSISTANT EXAMINER: Slobodyansky, Elizabeth
LEGAL REPRESENTATIVE: Thorpe North & Western, L.L.P.
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 635
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A latococcal- and streptococcal-phage-resistant starter culture for fermenting milk comprises a food-grade bacterium from the genera Pediococcus, Leuconostoc, Lactococcus, Streptococcus, or Lactobacillus transformed with a genetic element containing genes for a lactose fermentation phenotype. A method of making a lactococcal-phage-resistant starter culture comprises transforming a non-lactose fermenting, food-grade bacterium with a genetic element carrying determinants for a lactose fermentation phenotype. A method of making cheese with lactococcal-phage-resistant starter culture is also disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 38 OF 53 USPATFULL on STN
ACCESSION NUMBER: 97:56530 USPATFULL
TITLE: Reactions using heat-releasable reagents in wax beads
INVENTOR(S): Kosak, Kenneth M., 3194 S. 4400 West, West Valley City, UT, United States 84120
Kosak, Matthew K., 3194 S. 4400 West, West Valley City, UT, United States 84120

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5643764		19970701
APPLICATION INFO.:	US 1995-396257		19950301 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1992-936357, filed on 27 Aug 1992, now patented, Pat. No. US 5413924 which is a continuation-in-part of Ser. No. US 1992-835758, filed on 13 Feb 1992, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
LEGAL REPRESENTATIVE: Madson & Metcalf
NUMBER OF CLAIMS: 28
EXEMPLARY CLAIM: 1,15
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1897
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A reagent such as a heat resistant enzyme is entrapped in a material such as wax or a liposome that releases the reagent when heated so the reagent is available for reaction. In a preferred embodiment, wax beads containing the reagent are prepared by injecting the reagent into beads of molten wax and cooling to solidify the wax. In another embodiment, droplets of a solution of the reagent are dropped through a layer of molten wax to coat the droplets with the wax and the coated droplets are cooled to solidify the wax. The entrapped reagents have application in nucleic acid hybridizations, polymerase chain reactions (PCR), reverse transcriptase reactions (RTR), nucleic acid sequencing, and product

generating reactions such as colorimetic, fluorometric and chemiluminescent enzyme labeled immunoassays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 39 OF 53 CABA COPYRIGHT 2005 CABI on STN
ACCESSION NUMBER: 97:10211 CABA
DOCUMENT NUMBER: 19970400146
TITLE: Federal Dairy Research Centre, Kiel. Annual report 1995
Bundesanstalt fur Milchforschung, Kiel.
Jahresbericht 1995
CORPORATE SOURCE: Germany, Bundesanstalt fur Milchforschung, Kiel; Hermann-Weigmann-Strasse 1, 24103 Kiel, Germany.
SOURCE: Bundesanstalt fur Milchforschung, Kiel.
Jahresbericht 1995, (1996) pp. 104.
Publisher: Forschungszentrum fur Milch und Lebensmittel Weihenstephan. Freising
PUB. COUNTRY: Germany, Federal Republic of
DOCUMENT TYPE: Report; Company Publication
LANGUAGE: German
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 19970310
Last Updated on STN: 19970310
AB Research projects under way at the 7 institutes of the Federal Dairy Research Centre, Kiel, are reported for 1995. The Institute of Hygiene carried out 5 projects concerned with animal health and mastitis, medical microbiology, zoonoses and ***immunology*** , biology and biochemistry of saprophytes, residues and ecotoxicology, and the detection and significance of antimicrobial residues in milk. The Institute for Chemistry and Physics reported on 31 projects covering a wide range of studies on the chemistry and functional properties of milk and milk products, ***immunological*** and health aspects of milk components as well as analytical methods. Research at the Institute of Microbiology included studies of the physiology of lactic acid bacteria, analysis of DNA in Streptococcus ***thermophilus*** , detection of genetically-engineered microorganisms, cheese yeasts, moulds and surface bacteria, ***bacteriophages*** , genetically- ***modified*** starter cultures, gene probes and gene transfer. The 25 projects reported by the Institute of Physiology and Biochemistry of Nutrition included research on the digestion and metabolism of milk proteins and fatty acids labelled with heavy isotopes in miniature pigs or humans, lipid metabolism, lactose digestion and malabsorption, milk protein allergy, calcium and bone metabolism, studies on various vitamins, and zinc absorption. The Institute of Process Engineering contributed 9 projects including milk protein microfiltration and fractionation, storage and stability of evaporated milk and coffee cream, homogenization of cream, equipment testing and cleaning processes. The Institute for Business Economics and Market Research for Food Processing focused on data and modelling, treatment and distribution of products, environmental economy and structural aspects of the food processing industry. The work of the Department of Documentation and Information, including the library and computer centre, is described. Further information is given on organization, staff, scientific collaboration and publications.

L7 ANSWER 40 OF 53 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:531819 CAPLUS
DOCUMENT NUMBER: 125:160389
TITLE: DNA encoding restriction-modification enzymes for phage resistance in Lactococcus and Streptococcus
INVENTOR(S): Moineau, Sylvain; Walker, Shirley A.; Vedamuthu, Ebenezer R.; Vandenbergh, Peter A.
PATENT ASSIGNEE(S): Quest International B.V., Neth.
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9621017	A2	19960711	WO 1995-NL448	19951229
WO 9621017	A3	19961121		

W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI

RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

US 5824523	A	19981020	US 1995-424641	19950419
AU 9644972	A1	19960724	AU 1996-44972	19951229
AU 712169	B2	19991028		
EP 805861	A2	19971112	EP 1995-943558	19951229

R: CH, DE, DK, ES, FR, GB, IT, LI, NL

PRIORITY APPLN. INFO.: US 1994-366480 A 19941230
US 1995-424641 A 19950419
WO 1995-NL448 W 19951229

AB The present invention relates to transformed dairy cultures with a natural 7.8-kb plasmid pSRQ700 which was isolated from Lactococcus lactis cremoris DCH-4. Plasmid pSRQ700 encodes a restriction/modification system named LlaII. When introduced into a phage-sensitive dairy culture, such as L. lactis, pSRQ700 confers strong phage resistance against the 3 most common lactococcal phage species: 936, c2, and P335 found in dairy product fermns. The LlaII endonuclease was purified and found to cleave the palindromic sequence 5'.uparw.GATC-3'. The low copy plasmid pSR!700 was mapped and the genetic organization of LlaII localized. Cloning and sequencing of the entire LlaII system allowed the identification of 3 open reading frames. The 3 genes (llaIIA, llaIIB, and llaIIC) overlapped and are under one promoter; a terminator was found at the end of llaIIC. The genes llaIIA and llaIIB coded for m6A-methyltransferases and llaIIC for an endonuclease. The native LlaII R/M system from Lactococcus lactis is also expressed by and conferred strong phage resistance to various industrial S. thermophilus strains. Resistance was obsd. against phages isolated from yogurt and Mozzarella wheys. Escherichia coli can be used to produce the LlaII endonuclease.

L7 ANSWER 41 OF 53 USPATFULL on STN
ACCESSION NUMBER: 96:77700 USPATFULL
TITLE: Preparation of wax beads containing a reagent using liquid nitrogen for cooling and solidifying
INVENTOR(S): Kosak, Kenneth M., 3194 S. 4400 West, West Valley City, UT, United States 84120
Kosak, Matthew K., 3194 S. 4400 West, West Valley City, UT, United States 84120

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5550044		19960827
APPLICATION INFO.:	US 1994-257567		19940610 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1992-936357, filed on 27 Aug 1992, now patented, Pat. No. US 5413924 which is a continuation-in-part of Ser. No. US 1992-835758, filed on 13 Feb 1992, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1233
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Droplets of molten wax or waxy polymer containing a reagent are dropped onto the surface of liquid nitrogen, the droplets remain on the surface until solidified and the droplets are removed from the surface before they sink into the liquid nitrogen to provide beads containing the reagent. The reagent can be any material that can be entrapped in the beads and does not undergo excessive inactivation when the beads are melted by heating to release the reagent. Examples of reagents are heat

resistant enzymes, enzyme substrates, metal salts, oligonucleotides, inclusion compounds, surfactants, emulsifiers, antioxidants, stabilizers, drugs, antibiotics, antibodies and antigens. An apparatus for producing the beads contains a plurality of channels through which liquid nitrogen flows from a reservoir. Each channel passes under a dispenser tip from which droplets are formed and released onto the surface of flowing liquid nitrogen. Liquid nitrogen containing the beads flows from each channel into a pipe and then over a separation sieve. The beads can be used in various in vitro chemical, biochemical and immunological reactions including the PCR, where the reagent is released by heating and melting the beads. The beads have all the combined features for commercial use of: (a) spherical shape, (b) uniform, narrow size range (i.e. 5% or less deviation), (c) free of water contamination, (d) contain an aqueous reagent, and (e) can be produced at high speed (i.e. over 1000 per min.).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 42 OF 53 USPATFULL on STN
ACCESSION NUMBER: 95:40862 USPATFULL
TITLE: Preparation of wax beads containing a reagent for release by heating
INVENTOR(S): Kosak, Kenneth M., 3194 S. 4400 W., West Valley City, UT, United States 84120
Kosak, Matthew K., 3194 S. 4400 W., West Valley City, UT, United States 84120

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5413924		19950509
APPLICATION INFO.:	US 1992-936357		19920827 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1992-835758, filed on 14 Feb 1992, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Naff, David M.
LEGAL REPRESENTATIVE: Madson & Metcalf
NUMBER OF CLAIMS: 19
EXEMPLARY CLAIM: 1,11
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 1742
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A reagent such as an enzyme is entrapped in a material such as wax or a liposome that releases the reagent when heated. In a preferred embodiment, wax beads containing the reagent are prepared by injecting the reagent into beads of molten wax and cooling to solidify the wax. In another embodiment, droplets of a solution of the reagent are dropped through a layer of molten wax to coat the droplets with the wax and the coated droplets are cooled to solidify the wax. The entrapped reagents have application in nucleic acid hybridizations, polymerase chain reactions (PCR), reverse transcriptase reactions (RTR), nucleic acid sequencing, and product generating reactions such as colorimetic, fluorometric and chemiluminescent enzyme labeled immunoassays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 43 OF 53 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 10
ACCESSION NUMBER: 95:187608 CABA
DOCUMENT NUMBER: 19950405168
TITLE: Expression of a Lactococcus lactis phage resistance mechanism by Streptococcus thermophilus
AUTHOR: Moineau, S.; Walker, S. A.; Holler, B. J.; Vedamuthu, E. R.; Vandenbergh, P. A.
CORPORATE SOURCE: Quest International, Sarasota, Florida 34243, USA.
SOURCE: Applied and Environmental Microbiology, (1995) Vol. 61, No. 7, pp. 2461-2466. 51 ref.
ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19951115

Last Updated on STN: 19951115
AB The 7.8-kb lactococcal plasmid pSRQ700 encodes the LlaII restriction/ ***modification*** system which recognizes and cleaves the sequence 3[prime]-GATC-5[prime]. When the plasmid pSRQ700 is introduced into a ***phage*** -sensitive Lactococcus lactis strain, strong ***phage*** ***resistance*** is conferred by the LlaII system. In this paper, it was shown that pSRQ700 cannot replicate in Streptococcus ***thermophilus*** . However, if cloned into the vector pNZ123, the native LlaII system is expressed and strong ***phage*** ***resistance*** is conferred to various industrial S. ***thermophilus*** strains. ***Resistance*** against ***phages*** isolated from yoghurt and Mozzarella whey was observed. To the authors' knowledge, this is the first report of increased ***phage*** ***resistance*** in S. ***thermophilus*** .

L7 ANSWER 44 OF 53 CABA COPYRIGHT 2005 CABI on STN
ACCESSION NUMBER: 96:17898 CABA
DOCUMENT NUMBER: 19960400413
TITLE: Genetically-modified organisms: what future?
Organismes genetiquement modifies: quel futur?
AUTHOR: Roussiere, H.
SOURCE: Revue Laitiere Francaise, (1995) No. 547, pp. 19-20.
1 ref.
ISSN: 0035-3590
DOCUMENT TYPE: Journal
LANGUAGE: French
ENTRY DATE: Entered STN: 19960216
Last Updated on STN: 19960216
AB The use of genetically- ***modified*** microorganisms in milk products is permitted by law in France, but the dairy industry has been slow to make use of genetic engineering techniques. Research being carried out into genetically- ***modified*** foods and microorganisms in Europe is outlined and specific mention is made of work being carried out by various laboratories of the Institut National de la Recherche Agronomique (France) including studies on: Lactococcus species; ***bacteriophage*** ***resistance*** ; mechanisms of infection by ***bacteriophages*** ; regulation of gene expression; and proteolytic enzymes of Lactococcus lactis and Streptococcus ***thermophilus*** . Benefits to the dairy industry of genetic techniques, which could be used to shorten processing times or to control flavour and texture, should be considerable but have yet to be adopted on a commercial scale in France.

L7 ANSWER 45 OF 53 FROSTI COPYRIGHT 2005 LFRA on STN
ACCESSION NUMBER: 321029 FROSTI
TITLE: Restriction/modification in Streptococcus thermophilus: isolation and characterization of a type II restriction endonuclease Sth455I.
AUTHOR: Guimont C.; Henry P.; Linden G.
SOURCE: Applied Microbiology and Biotechnology, 1993, 39 (2), 216-220 (27 ref.)
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: English
AB ***Phage*** attack is reported to be a major problem in industrial fermentation. ***Phage*** ***resistance*** mechanisms of lactic acid bacteria have been studied. There is evidence for the presence of restriction/ ***modification*** in the case of Streptococcus ***thermophilus*** . S. ***thermophilus*** strain CNRZ 455 produces a type II restriction endonuclease designated Sth4551. In this study this enzyme was isolated from cell extracts, and optimal reaction conditions for Sth4551 were determined. The enzyme exhibited restriction activity on the DNA of three ***bacteriophages*** of S. ***thermophilus*** and no activity on the ***phage*** lytic for strain CNRZ 455. The restriction/ ***modification*** system for this strain is discussed.

L7 ANSWER 46 OF 53 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 11
ACCESSION NUMBER: 93:14183 CABA
DOCUMENT NUMBER: 19930457500
TITLE: Bacteriophages of Streptococcus salivarius ssp. thermophilus: characterization of hereditary

relationships and determination of virus-host interaction
AUTHOR: Sebastiani, H.; Jager, H.
CORPORATE SOURCE: Bundesanstalt fur Alpenlandische Milchwirtschaft, 6200 Rotholz, Austria.
SOURCE: Milchwissenschaft, (1993) Vol. 48, No. 1, pp. 25-29. 35 ref.
ISSN: 0026-3788
DOCUMENT TYPE: Journal
LANGUAGE: English
SUMMARY LANGUAGE: German
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
AB ***Bacteriophage*** strains of Streptococcus salivarius var. ***thermophilus*** were divided into 3 subgroups with respect to their host range. This classification was confirmed by a correlation between the host range of the ***phages*** and the restriction enzyme patterns of their DNA. DNA-DNA-homology from 100 to 60% was found between ***bacteriophages*** of different subgroups. General ***phage*** ***resistance*** was due to the presence of a temperate ***phage*** in one case. The induced prophage was morphologically indistinguishable from the virulent ***phages*** of S. salivarius var. ***thermophilus*** and revealed the same host range as the ***phages*** of subgroup 1. The DNA of all ***bacteriophages*** proved to be ***modified*** in the same way as the DNA of their hosts by a restriction/ ***modification*** system. This enzyme system, which methylates cytosine in the GATC sequence, was found in all host strains of S. salivarius var. ***thermophilus*** except 1.

L7 ANSWER 47 OF 53 CABA COPYRIGHT 2005 CABI on STN DUPLICATE 12
ACCESSION NUMBER: 92:62133 CABA
DOCUMENT NUMBER: 19920452907
TITLE: Different bacteriophage resistance mechanisms in Streptococcus salivarius subsp. thermophilus
AUTHOR: Larbi, D.; Decaris, B.; Simonet, J. M.
CORPORATE SOURCE: Laboratoire de Genetique et Microbiologie, Faculte des Sciences, Universite Nancy I, BP 239, 54506 Vandoeuvre-les-Nancy, France.
SOURCE: Journal of Dairy Research, (1992) Vol. 59, No. 3, pp. 349-357. 37 ref.
ISSN: 0022-0299
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
AB Streptococcus salivarius var. ***thermophilus*** strain NST5 exhibited a temp.-dependent defence mechanism against the virulent ***bacteriophages*** [phi]B1.2 and [phi]A1.1. It was active at 42 but not at 30[deg]C, as demonstrated by a significant increase of both plaque size and efficiency of plaquing. This defence mechanism did not affect host-dependent ***phage*** replication and did not interfere with ***phage*** adsorption to NST5. These results suggest that it interfered with ***phage*** development. The ***phages*** [phi]T33, [phi]T58, [phi]D1, [phi]T21 and [phi]T9, belonging to the same ***phage*** type as [phi]B1.2, were examined for their ability to infect NST3 and NST5. Restriction ***modification*** systems of different specificity were detected in NST3 and NST5; host-dependent ***phage*** replication was detected at 30 and 42[deg]C; an abortive defence mechanism was detected in NST5, which was active at 42 but not 30[deg]C, and was independent of restriction ***modification*** action or interference with ***phage*** adsorption. These investigations of ***phage*** -host interactions showed that the 2 S. salivarius var. ***thermophilus*** strains studied avoided attack by related ***bacteriophages*** by evolving at least 3 different ***resistance*** systems.

L7 ANSWER 48 OF 53 CABA COPYRIGHT 2005 CABI on STN
ACCESSION NUMBER: 94:61407 CABA
DOCUMENT NUMBER: 19940402722
TITLE: State of research concerning Streptococcus salivarius ssp. thermophilus and Lactobacillus

delbrueckii bacteriophage
AUTHOR: Gillies, K. O.
CORPORATE SOURCE: Marschall Products, P. O. Box 592, Madison, WI 53701, USA.
SOURCE: Proceedings from the 29th Annual Marschall Italian Cheese Seminar, 16 & 17 September, 1992, (1992) pp. 45-50. 20 ref.
Publisher: Rhone-Poulenc. Madison
Meeting Info.: Proceedings from the 29th Annual Marschall Italian Cheese Seminar, 16 & 17 September, 1992.
PUB. COUNTRY: United States
DOCUMENT TYPE: Conference Article
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
AB The current situation as regards research into ***bacteriophages*** of starter cultures used in the manufacture of Italian-style cheeses such as Mozzarella is examined and the possibility of using molecular biology techniques to combat ***bacteriophages*** is discussed. The number of groups engaged in research into ***bacteriophages*** and ***bacteriophage*** - ***resistance*** in lactic acid bacteria such as Streptococcus salivarius var. ***thermophilus*** and Lactobacillus delbrueckii remains small, but a coherent view of the characteristics of thermophilic ***bacteriophages*** is emerging. This should assist in the proper management of Italian cheese starter cultures and should also establish a basis for any future attempts to enhance ***phage*** ***resistance*** via strain ***modification*** .

L7 ANSWER 49 OF 53 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1991-0378608 PASCAL
TITLE (IN ENGLISH): Genetic and biological studies of nine Streptococcus salivarius ssp thermophilus bacteriophages. Studies of host-phage interactions
TITLE (IN FRENCH): Etudes genetique et biologique de neuf bacteriophages de Streptococcus salivarius ssp thermophilus. Etudes des interactions phages-bacteries
AUTHOR: LARBI DEROUICHE LARBI Dejla; SIMONET Jean-Marc (dir. the)
SOURCE: (1991), 208 refs.
147 p.
Dissertation Information: Nancy 1, Th. doct. : Genet., 91 NAN1 0013
DOCUMENT TYPE: Dissertation
BIBLIOGRAPHIC LEVEL: Monographic
COUNTRY: France
LANGUAGE: French
AVAILABILITY: INIST-T 76052
AN 1991-0378608 PASCAL
ABFR Dans cette etude neuf ***bacteriophages*** de Streptococcus salivarius ssp. ***thermophilus*** ont ete caracterises. Leur genome est constitue d'ADN double brin lineaire possedant des extremites cohesives. Sur la base de leurs profils de restriction, ces ***phages*** ont ete classes en deux souches phagiques. L'etude genetique et biologique de deux ***bacteriophages*** , representatifs de ces deux souches montre qu'ils sont tres apparentes. L'etude des interactions ***phages*** -bacteries suggere la presence de systemes de ***resistance*** varies chez Streptococcus salivarius ssp. ***thermophilus*** , notamment l'existence de systemes de restriction/ ***modification*** et la presence d'un systeme de ***resistance*** thermo-dependant qui induirait une infection abortive. Par ailleurs, ces mecanismes n'affectent pas tous les ***phages*** d'une meme souche, ce qui suggere que les ***phages*** peuvent developper des parades a ces mecanismes

L7 ANSWER 50 OF 53 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN
ACCESSION NUMBER: 1991-0324751 PASCAL
TITLE (IN ENGLISH): Multiple modification/restriction systems in

Streptococcus thermophilus: purification and characterization of SthTI, a type II restriction endonuclease
TITLE (IN FRENCH): La restriction/modification chez Streptococcus thermophilus: existence de systemes multiples, purification et caracterisation de SthTI, une endonuclease de restriction de type II
AUTHOR: BENBADIS Laurent; HARTLEY Donna (dir. the)
SOURCE: (1990), 187 refs.
145 p.
Dissertation Information: Paris 07, Th. doct. : Microbiol., 90 PA07 7115
DOCUMENT TYPE: Dissertation
BIBLIOGRAPHIC LEVEL: Monographic
COUNTRY: France
LANGUAGE: French
AVAILABILITY: INIST-T 74880
AN 1991-0324751 PASCAL
ABFR Streptococcus ***thermophilus*** est utilise en symbiose avec Lactobacillus delbruecki subsp. bulgaricus lors de la fermentation qui transforme le lait en yaourt. Ving-quatre ***bacteriophages*** virulents de Streptococcus ***thermophilus*** isoles a partir de fermentations, ou la production d'acide lactique etait ralentie voire arretee, dans differentes usines produisant des yaourts ont ete compares sur la base de leurs spectres d'hotes, leurs genomes et leurs proteines majeures. Nous avons determine le spectre d'hote de huit ***phages*** representatifs sur une collection de cent-quatre-vingt-quinze souches de Streptococcus ***thermophilus*** . Chez certaines souches, nous avons observe une replication des ***phages*** controlee par l'hote. Des systemes de restriction/ ***modification*** multiples existent chez Streptococcus ***thermophilus*** . Nous avons purifie une endonuclease de restriction de type II qui reconnait specifiquement la sequence: 5'-C-C.fleche (bas).W-G-G-3', 3'-G-G-W.fleche (haut).C-C-5' (W=A ou T) et qui la coupe suivant les fleches. Cette enzyme nommee SthTI est une proteine dont le poids moleculaire apparent par SDS-PAGE est estime a 41000. Nous avons teste la susceptibilite in vitro a la coupure par SthTI d'ADN extraits des ***phages*** Streptococcus ***thermophilus*** . Il existe une correlation parfaite entre la ***resistance*** /sensibilite aux ***phages*** de la souche dont est extraite SthTI et la sensibilite/ ***resistance*** de leur ADN a SthTI

L7 ANSWER 51 OF 53 CABA COPYRIGHT 2005 CABI on STN
ACCESSION NUMBER: 92:37395 CABA
DOCUMENT NUMBER: 19920451178
TITLE: Characterization and comparison of virulent bacteriophages of Streptococcus thermophilus isolated from yogurt
AUTHOR: Benbadis, L.; Faelen, M.; Slos, P.; Fazel, A.; Mercenier, A.
CORPORATE SOURCE: A. Mercenier, Transgene SA, Strasbourg, France.
SOURCE: Biochimie, (1990) Vol. 72, No. 12, pp. 855-862. 44 ref.
ISSN: 0300-9084
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
AB Seven virulent ***bacteriophages*** of Streptococcus ***thermophilus*** were characterized at the molecular level, and classified into 2 subgroups (A and B) by DNA/DNA hybridization experiments and analysis of their structural proteins. Two representatives of subgroups A and B were compared with 3 representatives of Neve's subgroups I, II and III by Southern blot experiments. These isometric-headed ***phages*** possess a double-stranded DNA genome varying between 30-44 kbase (kb) pairs. Subgroup A is composed of 3 ***phages*** ([Phi] 57 as representative) with similar structural proteins as determined by SDS-PAGE electrophoresis (estimated MW of 31 000 and 27 500 for ***phage*** [Phi] 57, and 32 000 and 27 000 for the 2 others). A common structural protein of 43 000 was found for ***phages*** of subgroup B. ***Phages*** [Phi] 57 (subgroup A) and a 10/J9 or PO (Neve's subgroups I

or II resp.) belonged to the same subgroup as determined by DNA/DNA hybridization experiments. Partial DNA homology was detected among all the ***phages*** tested except for ***phage*** [Phi] ST27 of A. W. Jarvis. ***Phage*** -host interactions were also investigated by cross-propagation of the 7 ***phages*** studied on different indicator strains. A complete lack of correlation existed between the DNA homology grouping of the ***phages*** and their host range. Various restriction- ***modification*** systems were detected in some of the Streptococcus ***thermophilus*** strains. It is considered that this work will be of use in developing ***phage*** - ***resistant*** starters for milk products.

L7 ANSWER 52 OF 53 PASCAL COPYRIGHT 2005 INIST-CNRS. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 1995-0355573 PASCAL

TITLE (IN ENGLISH): Study of lactic bacteria phage resistance mechanisms

TITLE (IN FRENCH): Etude des mecanismes de resistance aux phages chez les bacteries lactiques

AUTHOR: PREVOTS Fabien; RITZENTHALER P. (dir.)

CORPORATE SOURCE: Universite de Toulouse 3, Toulouse, France (tutelle)

SOURCE: (1989-12), 288 refs.
161 p.
Dissertation Information: Universite de Toulouse 3. Toulouse. FRA, Th. doct., 89TOU30231

DOCUMENT TYPE: Dissertation

BIBLIOGRAPHIC LEVEL: Monographic

COUNTRY: France

LANGUAGE: French

SUMMARY LANGUAGE: French; English

AVAILABILITY: INIST-T 96662, T89TOU30231

AN 1995-0355573 PASCAL

ABFR Les fermentations industrielles realisees par les bacteries lactiques sont souvent perturbees par le developpement de ***bacteriophages*** , qui vont provoquer un ralentissement ou un arret de la production d'acide lactique par suite de la lyse bacterienne. Une collection de ***bacteriophages*** de differentes especes de bacteries lactiques (Lactococcus lactis ssp lactis, Lactococcus lactis ssp cremoris, Streptococcus salivarius ssp ***thermophilus***) a d'abord ete constituee a partir de diverses origines. Ces ***phages*** ont ete caracterises d'une facon tres detaillee, aussi bien sur le plan morphologique que moleculaire: etude au microscope electronique, composition en proteines, profils de restriction, hybridation ADN-ADN. Cette collection est hautement representative de l'ensemble des ***phages*** que l'on peut rencontrer lors des accidents de fermentation dans les industries laitieres. Cette collection de ***bacteriophages*** bien caracterises nous a permis d'aborder l'etude des mecanismes de ***resistance*** aux ***bacteriophages*** presents naturellement chez les lactocoques. Des etudes de lysotypie ont permis d'identifier des souches insensibles a tous les ***bacteriophages*** : certaines de ces souches sont capables de transferer par conjugaison le caractere de ***resistance*** a une souche sensible. Chacun de ces mecanismes a ete teste pour sa thermosensibilite et pour la ***resistance*** qu'il confere aux differentes familles de ***phages*** de Lactococcus lactis. Les plasmides responsables de ces mecanismes de ***resistance*** ont ete mis en evidence par electrophorese en champ pulse. Ils ont une taille superieure a 50 kilobases et sont conjugatifs. Leur carte physique a ete etablie. Ces travaux ouvrent la voie a la construction de souches de bacteries lactiques presentant une ***resistance*** accrue aux ***bacteriophages*** par une approche 'naturelle' sans faire appel aux techniques de recombinaison genetique in vitro. L'etude de milieux de culture inhibiteurs de ***phages*** a egalement ete abordee. Les phosphates presents dans ces milieux en chelatant les ions calcium, retardent la propagation des ***phages*** dont le developpement necessite du calcium. Par contre, ces milieux sont sans effet sur les autres ***phages*** . Enfin, des techniques de transfert de materiel genetique, transfection et transformation, ont ete mises au point chez

les lactocoques. Les deux genes du systeme de restriction-
modification heterologue EcoRI ont ete introduits dans Lactococcus lactis grace a la construction d'un plasmide-navette E. coli/L, lactis. L'absence d'expression de ces deux genes dans l'hote L. lactis a conduit au clonage en amont de ceux-ci de promoteurs de ***phages*** de lactocoques

L7 ANSWER 53 OF 53 CABA COPYRIGHT 2005 CABI on STN
ACCESSION NUMBER: 84:41912 CABA
DOCUMENT NUMBER: 19840489747
TITLE: Genetics of dairy cultures
AUTHOR: Davies, F. L.; Gasson, M. J.
CORPORATE SOURCE: National Inst. for Res. in Dairying, Shinfield, Reading RG2 9AT, UK.
SOURCE: Irish Journal of Food Science and Technology, (1983) Vol. 7, No. 1, pp. 49-60. 69 ref.
Price: Conference paper; Journal article
ISSN: 0332-0375
DOCUMENT TYPE: Journal
LANGUAGE: English
ENTRY DATE: Entered STN: 19941101
Last Updated on STN: 19941101
AB Plasmids have been found in all group N streptococci (in which the plasmid profiles show a marked specificity) and in some Lactobacillus strains, but rarely in Streptococcus ***thermophilus*** . The function of these plasmids, transfer of genes by conjugation, transduction, protoplast fusion or transformation, gene cloning, and the role of lysogeny and restriction/ ***modification*** systems in response to ***bacteriophage*** attack, are discussed. Possible applications of plasmid transfer and genetic ***modification*** are suggested; these include the control of lactic acid production, development of starters capable of producing increased levels of proteinase and lipase, enlarging the ***phage*** ***resistance*** spectra of starters, and using lactobacilli as carriers of cloned genes to be expressed in the intestinal tract.

=> d his

L1 QUE THERMOPHILUS

FILE 'CAPLUS, SCISEARCH, BIOSIS, CABA, USPATFULL, FSTA, MEDLINE, EMBASE, PASCAL, LIFESCI, ESBIOBASE, BIOTECHNO, FROSTI, AGRICOLA, WPIDS' ENTERED AT 12:46:03 ON 24 NOV 2005
L2 35256 S L1
L3 2280 S (RESISTAN? OR IMMUN?) (S) L1
L4 421 S (PHAGE# OR BACTERIOPHAGE# OR SFI1 OR SFICL6 OR SFI21) (S) L3
L5 83 S (MODIFI? OR MUTAT?)(S) L4
L6 0 S (ORF90 OR ORF394 OR ORF269 ORF1560) (S) L5
L7 53 DUP REM L5 (30 DUPLICATES REMOVED)

=> log y